

OSCILLATOR

OTVARC



1998 - TWENTIETH
ANNIVERSARY
YEAR

Oregon Tualatin Valley Amateur Radio Club (Est. 1978)

October 1998

THE PRESIDENT'S MESSAGE

By Betty, N7REX

If you have storage space that you aren't using and would be willing to loan it to the club, then the club NEEDS YOU. After 15 of so years of storing our club belongings in his warehouse, Dee Lynch K7JRB needs for us to remove our belongings. The club trailer can be stored on the property, but outside. Some have suggested that we put the stored items in the trailer, but that defeats the whole purpose of having an 'Emergency Communications trailer.' The biggest and bulkiest items are the carpets that are rented out at Sea*Pac. If you have ideas, or contacts, please bring them to the next club meeting. Our time of free storage at Dee's is about to end. Thanks again Dee for all the years you have stored OTVARC belongings.

The September camp out was great. Not as warm and sunny as last year's and the blue huckleberries were scarce and tiny, but we all had a good time. It was nice having the Hoodview ARC travelers join us. Thank you Al, W7SIC, and Mary Berg, N7TRW, for making the arrangements.

Hope you didn't miss the fifth Wednesday simplex contest on September 30th. I still have the awards for the last contest and will bring them to the October club meeting. Jim, KB7ADH, sent them to me before venturing out for Cycle Oregon, I brought them to the last club meeting, but forgot to pass them out.

Thank you to Geno Gray, K7GY, who agreed to be net control for the Walk to Cure Diabetes (formerly the Walktoberfest) for me so that I could attend my cousin's 90th birthday party and family gathering. Thanks to everyone else who agreed to help out.

By the time this goes to press, our October VE testing will have taken place. I hope to have newly licensed hams at the club meeting. Thanks to Carl Clawson, WS7L, our test sessions have been going well. Jim Mockley, AB7XD. and Janet Bell, WB7FJC, have secured ARRL training tapes and

have lead a class in preparing for the test. Good luck to all of the participants.

Club members Will Sheffield, N7THL; Eric Margeson, KA6OSN; and Dale LeBarron, W7FBP, along with Bob Kemper are preparing for the Jamboree on the Air (JOTA). It is the 3rd Saturday in October. If you can help, please contact Will or Eric.

Thank you to Richard Welk, WB7EWX; Pete Thunem; WA7JBG, and Peter Hardiman, N7DUC, who volunteered to be on the election committee. Please give them all the support you can. If you are interested in running for office, give one of them a call.

We need to start work on our holiday party plans soon. If you have suggestions, please get them to me at the next meeting. Should we book the Gibsonians Band again this year? If so, are you all OK with buying your own dinner at the Elks Lodge? We cannot afford all three (food, raffle items, and the band). All other ideas and suggestions would be welcome. See you at the October meeting.

73, Betty

NEXT MEETING

WEDNESDAY, OCTOBER 14TH

Marsh Johnson, KK7CW, a well known, local, antenna authority, will present a program titled "All You Ever Wanted To Know About Antennas." Marsh will display slides as he clearly explains to us the real story behind antennas. This will be a very informative, interesting and useful discussion of the reasons why antennas work, and don't work.

W7OTV 146.960 (RPTR) WWW.EASYSTREET.COM/OTVARC

HUMAN EXPOSURE TO RADIO FREQUENCY ELECTROMAGNETIC FIELDS

From Amateur Newsline

Do people living near high-powered broadcast transmitters develop cancer at a higher rate than the rest of us? According to one scientific report, cancer among residents of the Lookout Mountain area west of Denver Colorado was not higher statistically for the decade from 1985 to 1995 than would have been expected based on the ages and numbers of men and women who live there.

The report was commissioned by the Colorado Department of Public Health and Environment. Its statistical analysis can be found at: http://www.state.co.us/gov_dir/cdphe_dir/release/

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FCC TO HAMS: WE WILL ACCEPT PAPER ONLY

From The ARRL Newsletter

Meanwhile, the FCC says that it will accept comments on paper without an accompanying word processor file in its Notice of Proposed Rulemaking to streamline the Amateur Service Rules. When it issued the proposal the FCC appeared to require that comments filed on paper also be accompanied by a word processing file on a computer disk. Now, the FCC's Maurice DuPont is quoted in the ARRL Letter as saying that a file on disk is not a strict requirement.

DuPont says that the FCC will accept comments on paper but there is one caveat. Diskless commenters should include a footnote stating – and we quote – "My comments are being filed on paper only, without a diskette, since it is not feasible for me to include a diskette."

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SCIENTISTS SHATTER LIMIT ON OVER-THE-AIR TRANSMISSIONS

From Amateur Newsline, by David Black, KB4KCH

Lucent Technologies has developed a fundamentally new technology that the company claims can boost the capacity of fixed wireless links by as much as 10 to 20 times, without increasing the bandwidth. It's called *BLAST*, and this new approach may even be applicable to ham radio use.

Sometimes taking another look at what is already understood can be valuable. That's what the Murray Hill, New Jersey, technology company did and *BLAST* was born by revisiting a 50 year old mathematical theory.

According to Lucent, the central idea behind *BLAST* is to exploit, rather than mitigate, multipath effects. Lucent says that helps achieve very high bandwidth efficiency a lot higher when you treat multipath as an ally instead of an adversary. Researchers say it's possible to have several transmissions occupying the same fre-

quency with each transmission having its own, essentially co-located, transmitting antenna. At the receiving end, multiple antennas are again used and there's a special computerized signal-processing algorithm in use.

The algorithm separates the mutually interfering transmissions from each other. As a result, Lucent says the capacity of a given frequency band increases proportionally to the number of antennas.

BLAST may be several years away from being available and even longer in amateur radio. Still, it could mean increased efficiency in packet radio backbone links and intertied digital voice repeater circuits. *BLAST* may also encourage experimentation in completely new modes of amateur radio communications. The benefits could include greater throughput for emergency, health and welfare and public service communications.

A *BLAST* prototype has been built to test the theory. The device uses an array of eight transmitting and twelve receiving antennas. During its first weeks of operation, it achieved unprecedented wireless capacity of over ten times the capacity of today's competing systems.

If you'd like more information about *BLAST*, you can find it at the Lucent Bell Lab's website:

<http://www.bell-labs.com/projects/blast/>

and <http://www.bell-labs.com/news/1998/september/9/1.html>

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INTERNET DEPRESSION

From Amateur Newsline

And finally, here is another reason to keep your radio turned on, your computer turned off and your mind removed from the World Wide Web. Doing so may keep you from becoming overly depressed.

No, we are not kidding. A new study conducted by the Carnegie Mellon University proves that the more hours people spend on the Internet, the more depressed, stressed and lonely they feel. The same study also found that Internet use had the same effect even for people who spent most of their time in such social activities as chat rooms or exchanging e-mail.

What all this seems to say is that your psyche is far safer if you avoid the web and stay on the air. After all, what's more exciting than snaring a rare one in a pile up or bouncing your signal off the moon.

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E.F. JOHNSON CELEBRATES 75 YEARS

From Amateur Newline

Transcript International's E.F. Johnson products division has celebrated its 75th year of manufacturing radio equipment.

Johnson was founded in 1923 by Edgar F. Johnson in his hometown of Waseca, Minnesota. This, as a parts business for a then very young radio communications market. By World War II, the company was manufacturing radio components for the United States Military as well as several commercial markets.

In 1949, E.F. Johnson manufactured its first amateur radio transmitter known as the Viking One. By the late fifties, Johnson was also building public safety two way radio gear.

Johnson eventually left the Amateur Radio market to concentrate in the commercial radio world. When it did it left behind a legacy of high quality ham radio equipment that many amateurs prize and enjoy to this very day.

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AAA SAYS LMCC "BACKING OFF" 70 CM REQUEST

From The ARRL Letter

An official of the American Automobile Association says the Land Mobile Communications Council is backing away from its request that the FCC reallocate the 420 to 430 Mhz and 440 to 450 Mhz bands. They would be taken away from the federal government and turned over to the Private Mobile Radio Service.

The AAA's Gary Ruark says he doubts the FCC will ever agree to the request. This, in the face of strong support for continued Amateur Radio presence on the band. In an August 31st letter to San Diego Section Emergency Coordinator David Doan, KC6YSO, Ruark, said that there is strong support for ham radio from several organizations. This includes the Association of Public Safety Communications Officials International and the National Telecommunications & Information Administration. Ruark says that this support has caused the LMCC to back off its demand to reallocate the 70 cm subbands. Because of this, Ruark says that it is doubtful that the FCC would ever agree to that portion of the LMCC petition addressing sharing with amateur radio operators.

The AAA is an LMCC member. Amateur Radio has a secondary allocation in these bands.

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OFFICER ELECTIONS COMING UP!

I think you will agree OTVARC is a great club! But, to continue to be a forward looking club offering many activities to all members, it needs to have some fresh, good people on the Board of Directors. Many elected positions are available. Please think about serving your club and members by offering a few hours each month on the board.

HAM RADIO RESPONDS TO MD-11 CRASH

From Amateur Newline, by WA3VJE

Ham radio operators were part of the rescue effort after a Swissair MD-11 jetliner crashed off the coast of Nova Scotia, killing all 229 people on board. Less than two hours after the airliner went down, radio amateurs were providing communications support for the rescue/recovery effort.

Not long after Swissair flight 111 crashed into the Atlantic off the Nova Scotia coast, Barry Manuel, the Emergency Measures Coordinator for the Halifax Regional Municipality sprang into action. Manuel put out a call to members of the local Amateur Radio emergency services group through Dave George, VE1AJP. George is the contact for the Emergency Management Office and the Radio Amateurs Canada ARES Coordinator for the Halifax area.

Under Georges' direction, amateur operators were quickly dispatched to the Command station at Peggy's Cove. That's the land point closest to the off-shore MD-11 crash site. There, they were asked to establish communications with net control station in downtown Halifax. Amateurs were also sent to the Shearwater area and to several other search and rescue staging areas.

Meanwhile, VE1CH who is the Telecommunications Officer for the Canadian Red Cross called in members of the Senior Amateur Radio Association. This was done to activate the communications center at the Canadian Red Cross Headquarters in downtown Halifax. They also set up telecommunications links between the on-site Red Cross Emergency Response Vehicle, the Command Post, Red Cross headquarters and the net control station.

Amateurs at the Command Post were kept very busy interfacing between the on-site commander, the military and just about everyone else who the site commander needed to talk to. Some twenty amateurs made themselves available. A shift roster was set up for twenty-four hour operation by the net control station.

Two repeaters were used in the operation, one for traffic handling, the other for personnel coordination and assignment. Amateur operators were also asked to provide emergency High Frequency links to the military and naval ships engaged in the search. They were also asked to establish communications on marine emergency frequency of 156.8 MHz.

The response was both fast and efficient, considering the hour and the number of people needed. The entire operation was moved to Peggy's Cove when the exact position of the debris field became known.

Soon, what was left of Hurricane Danielle would compound the disaster recovery effort off Nova Scotia as the storm churned the seas and made work even tougher for crews with the sad task to carry out.

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QUESTION POOL CHANGES ON HOLD

From The ARRL Letter

There will be no changes to the ham radio test questions for the foreseeable future. This, according to Ray Adams, W4CPA, who is the Chairman of the Question Pool Committee for the National Conference of Volunteer Examination Coordinators. Rick Lindquist of the ARRL Audio News reports on the decision to put the process on hold:

Citing "almost certain and imminent restructuring of licensing," the Question Pool Committee -- the group that formulates the questions that show up on Amateur Radio examinations -- has put further changes to the question pool on hold until restructuring issues are settled.

ARRL - VEC Manager Bart Jahnke, W9JJ, says the decision includes postponing the Advanced class question pool update, scheduled for revision and release this year for implementation next July 1st.

The Committee says restructuring could cause anything from making a few rules questions unusable to total deletion of one or more question pools or even combination of two or more of the present question pools into a differently configured question pool.

The decision to put further revisions to the question pool on hold had majority support of the National Conference of VECs. The QPC will postpone its current question pool review schedule until the direction of such restructuring is more certain said W4CPA.

Once it's known what restructuring of the Amateur Radio Service will bring with it, the question pool committee will resume its job. The complete ARRL Audio News with Rick Lindquist is available at: www.arrl.org

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WAYWARD ROBOT

From The Amateur Newslite

And finally the story of a lawsuit against a robot. Actually, against a company that owns an industrial robot that one woman says assaulted her.

The woman is a former employee of Pacific Bell in San Ramon, California. She is suing the company because the five hundred-pound robot that delivers the mail squashed her against a filing cabinet, injuring her shoulder, back, hand and feet.

A Pacific Bell spokesman says the robot, nick named Zippy, moves at a snail's pace, that it is loaded with safety features that include lights and a horn. The spokesman says the robot has been in service for over thirteen years and has had a spotless safety record -- until now.

And if we can offer a suggestion of our own -- maybe Pac Bell should get famed announcer Dick Tufeld to record his equally fa-

mous line "Warning Will Robinson -- Danger!!" Then install it in their machine so everyone will know when the Pacific Bell robot is on its way.

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OTVARC BUNCH FOR LUNCH

By Harold, WA0BRU

October's get-together will take place at the Beaverton *Olive Garden Italian Restaurant* located at 11650 SW Canyon Road in Beaverton. This address is on the north edge of the Fred Meyer shopping Center just west of Hwy 217.

The time of meeting will be **1:30PM** on Saturday, 17 October (the third Saturday). This restaurant features good Italian food and has lots of lunch specials -- lots of choices.

Call Julie, or me at 620-5041 with any questions.

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FINAL RESULTS OF FUND RAISER FOR PRINEVILLE

By Marilyn, KJ7AY

The sale of raffle tickets to collect contributions to aid homeowners who were affected by the flood in Prineville, OR May 31- June 1, 1998 culminated in a drawing for prizes on September 12 at the Metropolitan ARC picnic.

Nike, Inc. generously donated four gift certificates for shoes and warm up suits. The following winners of Nike apparel were: Sheryl Silverman, KD7CFH; Bill Hayman, K7RYE; Barbara Yasson, KC7KQI; and Bob Norin, W7Yaq. CCARC donated three ARRL books, and the winners of the books were Wes Allen, K7WWG; Hanford Van Ness, KE7BB; and Bob Judkins.

Many thanks to the participating members of the clubs who contributed to the fund raising effort:

Oregon Bass and Panfish Club; CCARC; OTVARC; PARC; WVDXC; HARC; and to ARRL NW Vice-director Greg Milnes, W7AGQ, who conducted the drawing of tickets at the picnic. Your willingness to aid people in need shows commendable human qualities of empathy and compassion.

(Continued on page 5)

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(Continued from page 4 - Prineville Fundraiser)

Other club members who aided in the sale of tickets deserve special recognition: Wayne Shuler, AI9Q, and Luther Brisky, KC7KVL, from CCARC, Gene Buell, KA7KBH, and Dale LeBarron, W7FBP, from OTVARC, and Marsha Hartman from the Oregon Bass and Panfish Club.

A check for \$350 was given to the American Red Cross, Oregon Trail Chapter, who will be the transferring agent in sending the money to Prineville. <>

METRO AMATEUR PICNIC A SUCCESS

By Geno, KA7KBH

The picnic had a good turnout and it appeared that everyone had a good time. The weather was perfect, and the attendees ate everything in sight....

I'll have a further report by next month's newsletter with numbers and additional information. <>

SILENT KEY ESTATE SALE

By Editor, W7OTV

Date: October 17th & 18th - Time: 9:00 - 5:00

Place: Chinook Mini Storage - Scappoose, OR. Highway 30, between mile post 21 and 22 on the West side of the highway.

Over 50 years of radios and equipment; 5 storage buildings full of Collins, Yaesu, Icom, Heathkit, Motorola, General Electric, test equipment, antennas, magazines, service manuals, antique radios and much more.

For general information, call Sue Sebring (503) 556-0324. <>

OTVARC VE UPDATE

From Carl, WS7L

Our latest session was held on August 1. We tested 8 applicants on a total of 10 elements. We awarded two upgrades to Extra Class, two upgrades to Tech Plus (one of these our own KC7RZB), and one new Technician. Thanks to Ron, K7GX, and Geno, K7GY, for serving with me at this session.

Coming sessions will be held Saturday October 3 and Saturday December 5. Exams are held at 1:00 p.m. at the Tualatin Valley Fire & Rescue administration offices, 20665 SW Blanton, Aloha. Contact Carl, WS7L, at 629-5796 if you need Further information.

People who believe a problem can be solved
tend to get busy solving it

AREA VE TESTING SCHEDULE

By Editor, W7OTV

Phantom Amateur Radio Club (PARG)

Second and fourth Sunday of each month
Contact John, KA0SSF, at 503-626-7399

Salem Amateur Radio Club

Third Saturday of each month
Contact Sandy, N7TQQ, at 1-800-920-9604

McMinnville Amateur Radio Club

Monthly on Wednesday evenings
Call Mike Jones, AB7OE, at 503-864-3291

Clark County Amateur Radio Club

Contact 360-896-8909

Portland Adventist Radio Club

Portland Community Policing Center
Contact Edith, KA7MIF, at 642-5803

Hoodview Amateur Radio Club

Contact Patsy, W7PAT, at 503-668-4305

Oregon Tualatin Valley Amateur Radio Club

5 Dec. Testing will be at the TV Fire & Rescue Bldg.,
20665 SW Blanton in Aloha., from 1PM TO 5PM.
Contact Carl Clawson at 503-629-5796 or 526-4610 if
further details are needed. <>

FCC ADOPTS UNIVERSAL LICENSING SYSTEM

From The ARRL Letter

Amateurs can say good-bye to the FCC Form 610 series in a few months. The FCC has adopted its long-proposed Universal Licensing System, which replaces Form 610 with a new, electronic Form 605, the Quick-FormApplication for Authorization in the Ship, Aircraft, Amateur, Restricted and Commercial Operator, and General Mobile Radio Services. Applicants may continue to use the old forms for six months after the new rules go into effect, however.

The FCC also adopted proposals to permit automatic reciprocal licensing of foreign hams wishing to operate in the US, pursuant to recent international reciprocal operating agreements.

The FCC said the ULS will "fundamentally change" the way the Commission receives and processes wireless applications and makes licensee information available to the public. The rules adopted September 17 will - in the FCC's words - "consolidate, revise, and streamline" license application procedures for radio services under the Wireless Telecommunications Bureau. The FCC

(Continued on page 6)

(Continued from page 5 - FCC Adopts Universal System))

last November began initial collection of licensee data to populate the ULS. Using the ULS, applicants and licensees will be able to file, modify, and renew electronically. Access to the ULS is via <http://www.fcc.gov/wtb/uls/>.

When the FCC first aired its ULS plan, some licensees expressed concerns because ULS registration would require applicants to provide a Taxpayer Identification Number, typically a Social Security Number. In its public notice, the FCC assured that "all TIN information will be kept confidential."

The FCC's action consolidates 40 existing forms into four ULS application forms, including the new Form 605. Electronic filing in the ULS will not yet be mandatory for individual amateurs. Hams will have the option of filing electronically or on paper. However, electronic filing via the ULS will be required for Volunteer Examiner Coordinators in the Amateur Service. Mandatory electronic filing requirements go into effect July 1, 1999 or six months after the use of ULS in a particular service - whichever is later.

An official Report and Order detailing the FCC's actions is expected to be released soon. The FCC's Public Notice is available on the FCC Web site at http://www.fcc.gov/Bureaus/Wireless/News_Releases/1998/nrw18040.html.

JAMBOREE ON THE AIR '98 IS OCTOBER 17-18

From The ARRL LETTER, by Jean, WB3IOS & Frank, KR1ZAN

On the third weekend of October, more than 400,000 Scouts around the world are expected to get together on the air during the 41st international Jamboree On The Air (JOTA). The annual event gives ham radio veterans a chance to plant the seed of ham radio in the minds of Scouts gathered at stations set up in fields, parks, mountaintops, or even at the veteran op's own shack, to participate.

Remember your first ham radio contact? Experienced hams can give that feeling to future ham radio operators during JOTA by showing Scouts the fun they could have if they embark on a "hobby of a lifetime." JOTA runs from Saturday, October 17, at 0001 local time to Sunday, October 18, at 2359 local time. This means activity continues from Friday to Monday, because of the time differences. During JOTA, participating Scouts not only get a chance to talk to other Scouts in their community or state, but they might even be able to chat with Scouts in different countries!

The radio station of the World Scout Bureau, HB9S, will be on the air from Geneva, Switzerland. HB9S will operate almost continuously, but will take breaks during the night in Europe. Groups can contact the station via packet at HB9S@HB9IAP or via e-mail to Station Manager Yves Margot, jota@world.scout.org. Operators at HB9S say they will do the best they can to make contact with Scout stations worldwide and speak to scouts in as many languages as possible.

JOTA can be a club activity or an individual project. Individual hams who want to get involved should make arrangements with Scout leaders a few weeks in advance (to get contact information, call the local Scout office and make yourself available to your local Cub Scout Pack, Girl or Boy Scout Troop or Explorers). The ARRL Educational Activities Department offers a JOTA information package on the ARRLWeb at <http://www.arrl.org/ead/jota.html>.

JOTA can sometimes be an outdoors activity like Field Day. The occasion gives veteran hams a chance to set up antennas and demonstrate different modes of radio communication, including packet, RTTY, SSTV, and HF digital modes, as well as voice.

JOTA activity on HF will center around 3740 or 3940, 7290, 14290, 18140, 21360, 24960, and 28990 kHz on SSB or 3590, 7030, 14070, 18080, 21140, 24910, and 28190 kHz on CW. For more JOTA information, see <http://www.scout.org/jota/>.

NEW VANITY CALL SIGN ADDRESS

From The ARRL Letter

New address for vanity call sign paper filers: Effective September 14, there's a new address at Mellon Bank for vanity call sign paper application filers who submit Form 610V and FCC Fee Remittance Form 159 with the vanity fee via the US Postal Service. The new address is: FCC Wireless Bureau Applications, POB 358130, Pittsburgh PA 15251-5130.

Electronic Form 610V Vanity Call Sign filers will continue to send Form 159 with their vanity fee to: FCC Amateur Vanity, POB 358994, Pittsburgh PA 15251-5994. A reminder: The vanity call sign filing fee will drop from \$50 to \$13 for applications filed on or after September 14, 1998. The FCC in Gettysburg reports it has processed vanity applications received through August 14. On September 2, it granted 52 new call signs; another 87 applications landed in the work in process (WIPs) pile for further processing.

You are from the Northwest if....

- ✓ you feel overdressed wearing a suit to a nice restaurant.
- ✓ know at least eight people who work for companies that manufacture computer parts, airplanes or athletic shoes.
- ✓ can tell the difference between Japanese, Chinese, Vietnamese and Thai food.
- ✓ return from a California vacation depressed because "all the grass was dead."
- ✓ know the vast difference between SBC, Torrefazone, Coffee People and Starbucks.
- ✓ take a half day every July 1 to find your sun glasses and sunscreen
- ✓ feel guilty for days after throwing an aluminum can in the trash instead of recycling it

146.96MHZ REPEATER COMMITTEE FORMED

By Chuck, KI7CL

The OTVARC Board has voted to accept the responsibility for the operation of the 146.96 Repeater, located on Goat Mountain, near Estacada. As the transfer takes place, Wes Allen's call K7WWG will be replaced with the club call W7OTV. Wes will continue to maintain the equipment and be a member of the repeater committee.

The Board has named the following people to a repeater transition committee: Chuck Mickley KI7CL (club call custodian), Wes Allen K7WWG, Al Berg W7SIC, Will Sheffield N7THL, and several of the current control operators. An introductory meeting will be held soon to identify the issues that will need to be addressed to insure an orderly transition.

The committee will be looking for comments from all interested parties as to the future plans and policies. They will also be looking for people who are interested in the maintenance of the repeater. Please share your interest or concerns with any of the repeater transition committee members. <>

NEW MEMBERS

By Editor, W7OTV

Please welcome four new members into the club: Reed Hanks, AB7AW, of Beaverton; Richard Rasch, K7VLS, of Portland; Rick Roberts, KD7CFG, of Portland and Helen Turner, KC7OMO, of Eagle Creek.

Please help them get acquainted and involved with the many opportunities provided by our club. <>

MID-VALLEY ARES PRESENTS SWAP-TOBERFEST

By Editor, W7OTV

The fourth annual Amateur Radio Emergency Services Convention (ARES) will take place at the Polk County Fairgrounds on Saturday, October 24, 1998. Doors open at 9AM - talk-in is on 146.86 (R).

This is billed as a "Convention for Emergency Communicators." Planned displays include the Marion and Polk County Comm Vans, American Red Cross, Civil Air Patrol, Oregon State Police and other as available.

Registrations are \$5.00 each with 12 and under free. Registrations post marked by 10/9/98 will receive an extra door prize ticket. Registrations received 10/17/98 or later will be held at the door for pickup.

For vendor or commercial info call Bob Boswell, W7LOU, at 503-623-2513 or e-mail to w7lou@goldcom.com. <>

PROPAGATION: A MYSTERY

By Frank, KB7RNV

Propagation is defined in the DICTIONARY OF ELECTRONICS as "the travel of electromagnetic waves or sound waves through a medium." As we stumble along in Cycle 23 it might be instructive to review what we know about propagation and its affect on our radio transmissions. Entire books have been written on the subject. I don't pretend to be as expert as the authors of these books are. My purpose in this article is to put into simple terms what is a complex subject. In the process readers may gain information that could help in operating their stations.

Signals from our transceivers travel through the atmosphere. The atmosphere has an affect on how far they travel and how well they are received. The conditions in our atmosphere change often and rapidly making predictions concerning how a signal might behave something less than science, more luck and some might say magic. Many look upon it as a mystery. Some of you may have heard me on the air from time to time refer to propagation prediction as an art. Our transmitted signals depend on such things as temperature, the location of the sun, the conditions on the surface of the sun, weather, and many other things beyond our control. No matter how good our numbers. No matter how intelligent our interpretation. Some will continue to look upon propagation as a mystery.

Propagation is a science that in some areas even the most experienced operator lacks understanding. The best we can do is understand enough so that good decisions about where and when to operate our equipment are made. The reader should understand that at times conditions could work against you no matter how much you know about propagation. Propagation is like the weather. If you don't like the way things are now, wait a little bit, they will change.

Signals that travel along the earth's surface are called Ground Waves. Normally, we would expect to find this type of propagation between stations a few hundred miles apart. Ground conductivity is different in different parts of the country. It is generally better in the Midwest and weaker on either coast. Ground propagation changes with the season. It is better in the winter and poorer in the summer. Conductivity also changes with the mineral content and moisture content of the soil. As the signal travels along the ground it is gradually absorbed. At some distance it becomes too weak to hear. Hills and mountains in the signal path may block the transmission. Ground Wave propagation can be dependable up to 200 miles.

(Continued on page 8)

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(Continued from page 7 - Propagation)

Let us now turn our attention to Skywave propagation. You probably learned in science class that gases extending upwards more than 1200 kilometers surround the earth. At about 60 kilometers we encounter the ionosphere. It extends up to 1200 kilometers above the earth. The gases in this area become ionized by the ultraviolet radiation from the sun. The more radiation, the more ionization. The ionosphere is more densely ionized over that part of earth that is exposed to sunlight at any given time. It is in this area, 60 to 1200 kilometers, that skywave propagation occurs.

Skywave propagation bounces off of the ionosphere and returns to earth. Sounds simple enough. But this phenomenon quickly gets complicated. The ionosphere goes through a series of changes that affect how this bounce occurs. If the ionosphere is very dense, too much of the transmitted signal will be absorbed and not enough signals will get back to earth. If the ionization is not dense enough the transmitted signal will head off into space. When you consider, as well, that the altitude at which the bounce occurs also varies with ionization density you can quickly understand why I refer to propagation forecasting as an art and not a science.

In order to make sense out of what can be confusing you need information. At a minimum you should know the solar flux index, A index and the K index. Don't let these scientific sounding words bother you. Scientists have argued for years about what it all means. We are only looking for a practical understanding of the propaga-

tion phenomenon.

The solar flux index expresses the amount of radio noise emitted by the sun. It varies with frequency and is usually measured at 2800 MHZ. It is useful in propagation forecasting. A sudden increase in this index usually indicates conditions will deteriorate in a few hours. A useful range for this index is between 100 and 200. Numbers above and below this range usually indicate poor propagation.

The A index is a 24 hour figure expressing the geomagnetic field of the earth. This index is very rarely above 100. The lower the number the lower the absorption by the earth's geomagnetic field. An A index of 10 or less indicates good propagation conditions.

The K index could be viewed as a "bigger and better A index." It is more complicated than the A index and takes into account additional changes in the geomagnetic field in its computation. A K index of 3 or less usually means good propagation conditions in the next 24 hours.

Without a lot of scientific jargon, hopefully, a little light has been shed on the subject. When next someone brings up the subject of propagation you will have information to contribute to the discussion. Armed with the three indexes mentioned in this article you could more intelligently operate your station. However, you should always keep in mind, that like the weather, propagation is beyond our control and constantly changing.

<>



OTVARC TRAVELERS CAMPOUT

Oct. 16-17-18

Eagles Nest RV Resort

Ilwaco, Washington



Eagles Nest RV Resort is located on the southern end of the Long Beach Peninsula in the city of Ilwaco, WA. Located at 150 feet above sea level on a high ridge, the resort affords excellent views and vistas overlooking the Ilwaco boat harbor, Long Beach Peninsula, Pacific Ocean beaches, mouth of the Columbia River and across the river to Astoria, OR. The area harbors elk, deer, and duck, with seasons and limits controlled by Washington state. Elevation: 150 ft.

Clubhouse, gift shop, TV room and library, laundry facilities, gameroom, and 24-hour security.

On-site: Horseshoes, swimming, miniature golf, shuffleboard, jacuzzi, exercise room, playground equipment, volleyball, basketball.

Off-site: Fishing, boating, clamming, crabbing, kite flying, access to one of the longest driving beaches in the U.S., golfing, bowling.

As of this printing time the location is not fully confirmed. For confirmation please call AL or Mary at 640-5456. We MUST hear from anyone wishing to attend!!!! Thanks

OTVARC Club Contacts

OTVARC Executive Board

President	Betty Mickley	N7REX	642-1284
Vice President	J.D. Fort	KC7EHT	259-0269
Secretary	Dale LeBarron	W7FBP	638-7768
Treasurer	Hanford Van Ness	KE7BB	246-7975
Trustee	Jack Smithson	KA7HOJ	646-1873
Trustee	Will Sheffield	N7THL	642-7314
Trustee	Janet Bell	WB7FJC	648-4147
Trustee	Al Berg	W7SIC	640-5456
Trustee	Maureen O'Rourke	KA7LAP	591-9641

Other Club Contacts

ARRL Coordinator	Bob Orr	WF7Q	472-2716
Bunny Hunting	OPEN		
Contesting	OPEN		
DX News	OPEN		
Equipment Loan	Stan Griffiths	W7NI	649-0837
Equipment Valuation	Randy Stimson	KZ7T	297-1175
Equipment Trustee	Al Berg	W7SIC	640-5456
Emergency Services	J.D. Fort	KC7EHT	259-0269
Field Day Coordinator	Alan Chinnock	KB7POR	636-2237
Health & Welfare	Mary Berg	N7TRW	640-5456
Historian	Al Berg	W7SIC	640-5456
Internet Home Page	Marc Chamberlin	WA7PXW	357-1869
Member Badges	Carl Clawson	WS7L	629-5796
Newsletter Editor	Dale LeBarron	W7FBP	638-7768
Newsletter Layout	Dale LeBarron	W7FBP	638-7768
Newsletter Distribution	Al Berg	W7SIC	640-5456
Nominating Committee	OPEN		
Packet - Club BBS	Rick Braun	KB7OGD	645-1490
Project Night	Alan Chinnock	KB7POR	636-2237
	Chuck Mickley	KI7CL	652-1284
Public Relations	J.D. Fort	K7JDF	259-0269
Public Service	Randy Stimson	KZ7T	297-1175
Repeater	Wes Allen	K7WWG	649-3295
RFI & TVI	Dale Mosby	K7FW	640-0217
Satellites	OPEN		
Scholarship	Carl Clawson	WS7L	629-5796
Sea-Pac	Al Berg	W7SIC	640-5456
"	Brad Beach	N7NVC	657-1781
"	Jim Schaeffer	KB7ADH	245-2518
"	Randy Stimson	KZ7T	297-1175
"	Will Sheffield	N7THL	642-7314
Station Trustee	Chuck Mickley	KI7CL	642-3713
Social	Harold Landers	WA0BRU	620-5041
Technical Specialist	Stan Griffiths	W7NI	649-0837
Tower Ordinances	Greg Milnes	W7AGQ	648-6990
Trailer	Dee Lynch	KA7NPN	646-4580
Training(code)	Burt Rooke(PCC)	KI7JX	241-2891
Training(Novice/Tech)	Jim Mockley	AB7XD	629-9354
Training(upgrade)	OPEN		
VE Test Coordinator	Carl Clawson	WS7L	629-5796
VHF/UHF	Arnold Jensen	N7YAG	543-3713

OTVARC Club Information

Purpose: The Oregon Tualatin Valley Amateur Radio Club, a Not-for-profit corporation, wants to be instrumental in helping the prospective as well as established Amateur to become a proficient communicator in the Amateur Radio Service.

Additionally, the intent is to promote the advancement of Amateur Radio Service, through the following five objectives:

1. Education & Training of new and licensed Amateurs.
2. Public Service during public events & community activities.
3. Emergency communications during emergencies & disasters.
4. Hobby enhancement through meetings, nets & contests.
5. Social contact with other amateurs & interested persons.

Special Service Club: OTVARC is an ARRL Special Service Club. The ARRL grants us this distinction due to our participation in emergency preparedness exercises, public service events and other service-oriented programs. In addition, continuing educational and training programs are conducted for FCC licenses. OTVARC benefits from you joining the ARRL through OTVARC. To join or renew your membership in the ARRL, contact the treasurer at any regular meeting.

Newsletter: The *OTVARC Oscillator* is the club newsletter. It is published monthly and is usually mailed on the first of the month. The opinions, views, and recommendations of its contributors are not necessarily those of the club, its officers, advertisers or the editorial staff.

Correspondence: All correspondence may be sent to OTVARC, PO Box 5132, Aloha, OR 97006-0132.

Advertising: Classified ads are free to all paid up members. Display ads are available to approved commercial interests. To place an ad, mail your camera ready copy to the address above and indicate the size desired. All display ads run for six months at a time, from January through June and July through December. All ads must be paid for in advance. Rates are as follows:

Full page	8" X 10"	\$200 for six months
Half page	8" X 5"	\$120 for six months
Qtr page	4" X 5"	\$72 for six months
Bus. Card	2" X 3"	\$36 for six months

Meetings: We have two meetings per month. The board meeting is on the fourth Wednesday of each month. All club business is conducted at this meeting. All members are welcome to attend. Contact the President for location and time. The general meeting is on the second Wednesday of each month at the Beaverton Elks Lodge. 3500 SW 104th Ave. (1 block north of Canyon Road). Meetings start at 7PM. If you would like to come early, you can get a nice meal from the Elks for less than \$6.00.

Membership: OTVARC is open to anyone who is interested in amateur radio. You do not need to be a licensed radio amateur to join. Dues are as follows: Full member, \$10/yr; Associate member (non-licensed), \$10/yr; Family members of full member, \$5/yr; Life memberships available - see the Treasurer. Only full members and life members may vote on club business and serve as club officers. All memberships expire on the last day of the calendar year. If you would like to join during the year, see the club treasurer for prorated dues.

How to join: Simply mail the Membership application and/or renewal form along with your dues to the address above.

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1998 marks OTVARC's twentieth year as an active club!

Please help celebrate this anniversary by contacting any club officer with your ideas on possible anniversary activities.

OTVARC

Oregon Tualatin Valley ARC

PO Box 5132

Aloha, OR 97006-0132

Address Correction Requested



Dates to remember!

October 12 – Columbus Day

October 25 – Daylight savings ends

October 31 – Halloween